

Tundra Treatment Guidelines

A Manual for Treating Oil and
Hazardous Substance Spills to Tundra

Third Edition



Alaska Department of Environmental Conservation
Division of Spill Prevention and Response
Prevention and Emergency Response Program

Backcover Photo Series

Drill Site 16, Prudhoe Bay Oilfield (top to bottom)

1. March 1997: A mixture of crude oil, methanol, and water affected 0.5 acre of tundra. Snow was used as an adsorbent, and the tundra surface was flooded and flushed with hot and warm water to melt contaminated ice and snow, and to recover contaminants.
2. June 1997: After the snow melted and the site was dewatered, propane torches were used to burn small areas of residual oil remaining on plants and on the soil surface. Fertilizer was applied to promote biodegradation and plant growth.
3. August 2009: After 13 growing seasons, indigenous plants have revegetated the affected area, giving it an appearance similar to the surrounding tundra. These plants originated from rootstock that survived the spill and cleanup operation.

Photographs by Timothy C. Cater, Senior Scientist, ABR.



Tundra Treatment Guidelines is a living document that provides the best available information based on the latest technological and engineering advancements, combined with practical knowledge gained from use of the manual in the field.

This document may be copied, in any format, for all uses excluding those for profit. Readers also may visit the on-line version of this manual at <http://www.dec.alaska.gov/spar/perp/ttman>. Alaska Department of Environmental Conservation welcomes suggestions for improvements that will be considered for future editions. A form is available for submitting corrections, updates, or refinements.